CLAIMS:

What is claimed is:

1. A distributed power system for a utility grid, comprising:

a distributed power source;

a temperature measuring device;

a power conditioning unit, wherein said power conditioning unit manages a power flow of said distributed power source;

a circuit breaker manager controllably connecting to said power grid, andwherein said circuit breaker manager is connected to said power conditioning unit.

2. A distributed power system for a utility grid according to claim 1, further comprising a heat exchanger for recovering heat from said distributed power source.

3. A distributed power system for a utility grid according to claim 1, wherein said circuit breaker manager controllably connects individual load branches.

4. A distributed power system for a utility grid according to claim 1, wherein said utility grid is a local area grid comprising a plurality of distributed power sources.

5. A segmentable distributed power system, comprising:

two or more power sources connected in parallel;

a power conditioning unit having an output impedance and connecting to each of said power sources on a first side and connecting to a shared load on a second side, wherein said power conditioning system controls said output impedance.

6. A circuit breaker manager for controlling distributed power between a power source and an external power grid, comprising:

a circuit breaker controller;

a plurality of solid state branch circuit breakers controlled by said circuit breaker controller;

a contactor for connecting to said external power grid;

5   a voltage sensor for measuring said external power grid; and

a means for communicating.

7.   A local area grid device for distributed power according to claim 6, wherein said communicating means connects to the Internet.

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8.   A system for managing a local area grid according to claim 7, further comprising an interface means for connecting said power conditioning unit to a graphical user interface for status, billing, maintenance, and adjustment of system parameters.

15   9.   A method for controlling a local area grid, wherein said grid contains two or more distributed power sources, comprising the steps of:

measuring a grid voltage by each power condition unit;

comparing said grid voltage of each power conditioning unit to a predetermined value;

20   increasing current output of said power conditioning unit to said local area grid if said grid voltage is less than said predetermined value; and

decreasing current output of said power conditioning unit to said local area grid if said grid voltage is greater than said predetermined value.

25   10.   A distributed power system for a ripple sensitive distributed power source, comprising:

A DC-DC converter serially connecting to said ripple sensitive power source on a first side;

A ripple tolerant power source connecting to said DC-DC converter on a

30   second side;

A phase shifted H-bridge connecting to said second side of said DC-DC converter on a first side;

A DC-AC converter connecting to a second side of said H-bridge; and

A means for forcing ripple sourced from said ripple tolerant power source.

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